Keystone Algebra 1   Name_____

Multiplying and Dividing Rational Expressions   Date_____ Period____
Simplify each expression.

1) $\dfrac{6}{3} \cdot \dfrac{9k}{6k}$

2) $\dfrac{3p}{2} \cdot \dfrac{2}{7}$

3) $10(x+1) \cdot \dfrac{(x-2)(x-8)}{10(x+1)}$

4) $\dfrac{4(n-5)}{5} \cdot \dfrac{5(7n-6)}{7n(7n-6)}$

5) $\dfrac{35m^2 - 20m}{2m^2} \cdot \dfrac{10m}{70m^2 - 40m}$

6) $\dfrac{6r-36}{r+7} \cdot \dfrac{3r}{r-6}$

7) $\dfrac{6}{5} \div \dfrac{3x^2}{9}$

8) $\dfrac{2n}{4n^2} \div \dfrac{6n}{6}$

9) $\dfrac{b+6}{b-3} \div \dfrac{(b+5)(b+6)}{6(b-3)}$

10) $\dfrac{30v}{4(v+4)} \div \dfrac{v-6}{4(v+4)}$

11) $\dfrac{n^2 - 5n - 6}{n+1} \div (n+3)$

12) $\dfrac{10x^2 - 70x}{9x^2} \div 10x$

13) $\dfrac{10a^3}{9} \cdot 8a$

14) $\dfrac{6k}{8} \cdot \dfrac{8k}{7}$

15) $\dfrac{(x-8)(x-5)}{x-8} \cdot \dfrac{9x(x-6)}{9x(x-5)}$

16) $\dfrac{4(3x-7)}{4} \cdot \dfrac{10(x+8)}{6x^2(7-3x)}$

17) $\dfrac{1}{k-7} \cdot \dfrac{k^2-10k+16}{k-2}$

18) $\dfrac{n^2-2n-80}{n-10} \cdot \dfrac{n-3}{n+8}$

19) $\dfrac{10p}{3p^2} \div \dfrac{9}{5p}$

20) $\dfrac{4x}{10} \div \dfrac{8x}{5}$

21) $\dfrac{3(n-4)}{(n-4)(n-7)} \div \dfrac{3}{8n(n-7)}$

22) $\dfrac{8m^2}{m-3} \div \dfrac{(m+9)(m-9)}{(-m+3)(m-9)}$

23) $(r-7) \div \dfrac{3r+6}{r+2}$

24) $\dfrac{1}{x-8} \div \dfrac{x+1}{x^2-x-2}$

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Date_____ Period_____

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    3

2) $\dfrac{3p}{2} \cdot \dfrac{2}{7}$

    $\dfrac{3p}{7}$

3) $10(x+1) \cdot \dfrac{(x-2)(x-8)}{10(x+1)}$

    $(x-2)(x-8)$

4) $\dfrac{4(n-5)}{5} \cdot \dfrac{5(7n-6)}{7n(7n-6)}$

    $\dfrac{4(n-5)}{7n}$

5) $\dfrac{35m^2 - 20m}{2m^2} \cdot \dfrac{10m}{70m^2 - 40m}$

    $\dfrac{5}{2m}$

6) $\dfrac{6r-36}{r+7} \cdot \dfrac{3r}{r-6}$

    $\dfrac{18r}{r+7}$

7) $\dfrac{6}{5} \div \dfrac{3x^2}{9}$

    $\dfrac{18}{5x^2}$

8) $\dfrac{2n}{4n^2} \div \dfrac{6n}{6}$

    $\dfrac{1}{2n^2}$

9) $\dfrac{b+6}{b-3} \div \dfrac{(b+5)(b+6)}{6(b-3)}$

    $\dfrac{6}{b+5}$

10) $\dfrac{30v}{4(v+4)} \div \dfrac{v-6}{4(v+4)}$

    $\dfrac{30v}{v-6}$

11) $\dfrac{n^2 - 5n - 6}{n+1} \div (n+3)$

    $\dfrac{n-6}{n+3}$

12) $\dfrac{10x^2 - 70x}{9x^2} \div 10x$

    $\dfrac{x-7}{9x^2}$

13) $\dfrac{10a^3}{9} \cdot 8a$

$\dfrac{80a^4}{9}$

14) $\dfrac{6k}{8} \cdot \dfrac{8k}{7}$

$\dfrac{6k^2}{7}$

15) $\dfrac{(x-8)(x-5)}{x-8} \cdot \dfrac{9x(x-6)}{9x(x-5)}$

$x-6$

16) $\dfrac{4(3x-7)}{4} \cdot \dfrac{10(x+8)}{6x^2(7-3x)}$

$-\dfrac{5(x+8)}{3x^2}$

17) $\dfrac{1}{k-7} \cdot \dfrac{k^2 - 10k + 16}{k-2}$

$\dfrac{k-8}{k-7}$

18) $\dfrac{n^2 - 2n - 80}{n-10} \cdot \dfrac{n-3}{n+8}$

$n-3$

19) $\dfrac{10p}{3p^2} \div \dfrac{9}{5p}$

$\dfrac{50}{27}$

20) $\dfrac{4x}{10} \div \dfrac{8x}{5}$

$\dfrac{1}{4}$

21) $\dfrac{3(n-4)}{(n-4)(n-7)} \div \dfrac{3}{8n(n-7)}$

$8n$

22) $\dfrac{8m^2}{m-3} \div \dfrac{(m+9)(m-9)}{(-m+3)(m-9)}$

$-\dfrac{8m^2}{m+9}$

23) $(r-7) \div \dfrac{3r+6}{r+2}$

$\dfrac{r-7}{3}$

24) $\dfrac{1}{x-8} \div \dfrac{x+1}{x^2 - x - 2}$

$\dfrac{x-2}{x-8}$